

Dean L. Engelhardt, et al.

Serial No.: 08/486,069

Filed: June 7, 1995

Page 3 [Amendment Under 37 C.F.R. §1.115 (In Response To The  
March 12, 2002 Office Action) -- September 12, 2002]

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KINDLY AMEND THIS APPLICATION AS FOLLOWS:

In The Claims:

Please enter replacement claims 681, 723, 749, 901, 909, 1025, 1027, 1411,  
1744 and 1761 as follows:

Clean Version of Replacement Claims

(II)<sup>1</sup> 681. (Amended) The process according to claim 678, wherein A comprises a  
magnetic component.

(II)<sup>2</sup> 723. (Amended) The process according to claim 722, wherein said organism is  
selected from the group consisting of bacteria, fungi, viruses, yeast, mammals, and  
a combination of any of the foregoing.

(II)<sup>3</sup> 749. (Amended) The process according to claim 721, wherein said incorporation  
is carried out by means of a polymerizing enzyme.

(II)<sup>4</sup> 901. (Amended) The process according to claim 873, wherein said incorporation  
is carried out by means of a polymerizing enzyme.

(II)<sup>5</sup> 909. (Amended) The process according to claim 904, wherein said sugar moiety  
or sugar analog comprises a monosaccharide.

(II)<sup>6</sup>  
1025. (Three Times Amended) A process for determining the sequence of a nucleic acid of interest, comprising the step of detecting non-radioactively with a sequencing gel one or more detectable non-radioactive labeled nucleic acid fragments comprising a sequence complementary to said nucleic acid of interest or to a portion thereof, wherein each of said fragments comprises one or more detectable non-radioactive modified or labeled nucleotides or nucleotide analogs, which nucleotide analogs can be attached to or coupled to or incorporated into DNA or RNA, and wherein said one or more detectable non-radioactive modified or labeled nucleotides or nucleotide analogs have been modified on at least one of the sugar moiety, the sugar analog, the phosphate moiety, the phosphate analog, the base moiety or the base analog thereof.

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(II)<sup>7</sup>  
1027. (Twice Amended) The process according to claim 1026, wherein said organism is selected from the group consisting of bacteria, fungi, viruses, yeast, mammals, and a combination of any of the foregoing.

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(II)<sup>8</sup> 1411. (Three Times Amended) A process for detecting a nucleic acid of interest in a sample, which process comprises the steps of:

(A) providing:

- (i) an oligo- or polynucleotide that is (1) complementary to and capable of specifically hybridizing to and forming a hybrid with a nucleic acid of interest or a portion thereof and (2) capable of binding to or complexing with a non-radioactively detectable protein; and
- (ii) a non-radioactively detectable protein which has a binding affinity to a specific nucleic acid sequence;

(B) contacting a sample suspected of containing said nucleic acid of interest with said oligo- or polynucleotide (i) and said non-radioactively detectable protein (ii) to form a complex; and

(C) detecting non-radioactively the presence of said non-radioactively detectable protein in said complex to detect said nucleic acid of interest.

(II)<sup>9</sup> 1744. (Amended) The process of claim 1743, wherein said pyrimidine analogs are selected from the group consisting of thymidine analogs, uridine analogs, deoxyuridine analogs, cytidine analogs and deoxycytidine analogs.

(II)<sup>10</sup> 1761. (Amended) The process of claim 1760, wherein said pyrimidine analogs are selected from the group consisting of thymidine analogs, uridine analogs, deoxyuridine analogs, cytidine analogs and deoxycytidine analogs.

Cancel ~~claim~~ 1260.

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Add new claims 1767 and 1768 as follows:

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(II)<sup>1</sup> 1767 (NEW). A process for detecting non-radioactively labeled nucleic acid fragments with a sequencing gel, comprising:

providing or generating detectable non-radioactively labeled nucleic acid fragments, wherein each of said fragments comprises one or more nucleotides or nucleotide analogs, which nucleotides or nucleotide analogs can be attached to or coupled to or incorporated into DNA or RNA, and wherein said one or more nucleotides or nucleotide analogs comprise one or more fluorescent or chemiluminescent indicators on at least one of the sugar moiety, the sugar analog, the phosphate moiety, the phosphate analog, the base moiety, or the base analog thereof;

subjecting said labeled fragments to a sequencing gel to separate or resolve said fragments; and

detecting non-radioactively each of said separated or resolved fragments by means of the fluorescent or chemiluminescent indicators.

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1768 (NEW) A process for resolving or separating non-radioactively labeled nucleic acid fragments with a sequencing gel, comprising:

providing or generating detectable non-radioactively labeled nucleic acid fragments comprising one or more nucleotides or nucleotide analogs that can be attached to or coupled to or incorporated into DNA or RNA, and wherein one or more fluorescent or chemiluminescent indicators are covalently attached, directly or through a linkage group, to at least one of the sugar moiety, the sugar analog, the phosphate moiety, the phosphate analog, the base moiety or the base analog of said nucleotides or nucleotide analogs;

subjecting said labeled fragments to a sequencing gel to separate or resolve said fragments; and

detecting non-radioactively each of said separated or resolved fragments by means of the fluorescent or chemiluminescent indicators attached to said one or more nucleotides or nucleotide analogs.

(II)  
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